We claim:

1. An aqueous polymer dispersion having a minimum film-forming temperature of below +65°C comprising at least one film-forming polymer in the form of dispersed polymer particles comprising a polymer phase P1 and a different polymer phase P2, the polymer dispersion being obtainable by free-radical aqueous emulsion polymerization comprising the following steps:

   i) polymerization of a first monomer charge M1 to give a polymer P1 having a theoretical glass transition temperature $T_g^{(1)}$ (acccording to Fox) and

   ii) polymerization of a second monomer charge M2 to give a polymer P2 having a theoretical glass transition temperature $T_g^{(2)}$ (according to Fox) which is different from $T_g^{(1)}$ in the aqueous dispersion of the polymer P1,

   at least one chain transfer reagent being used either in the polymerization of the monomer charge M1 or in the polymerization of the monomer charge M2.

2. An aqueous polymer dispersion as claimed in claim 1, wherein $T_g^{(2)}$ is at least 10 kelvins above $T_g^{(1)}$.

3. An aqueous polymer dispersion as claimed in claim 1, wherein the chain transfer reagent is used in polymerizing the monomer charge M2 if $T_g^{(2)} > T_g^{(1)}$ or in polymerizing the monomer charge M1 if $T_g^{(1)} > T_g^{(2)}$.

4. An aqueous polymer dispersion as claimed in claim 1, wherein the chain transfer reagent is selected from organic compounds having at least one SH group.

5. An aqueous polymer dispersion as claimed in claim 1, wherein the chain transfer reagent is used in an amount of from 0.1 to 5% by weight, based on the weight of the monomers contained in the respective monomer charge M1 or M2.

6. An aqueous polymer dispersion as claimed in claim 1, wherein the monomer charge M2 contains at least 80% by weight, based on the overall weight of the monomers contained in the monomer charge M2, of one or more C_1-C_4 alkyl methacrylates.

7. An aqueous polymer dispersion as claimed in claim 1, wherein the monomer charge M1 comprises:

- from 30 to 80% by weight of at least one monomer M1a selected from the C_1-C_{10} alkyl esters of acrylic acid,
- from 20 to 60% by weight of at least one further monomer M1b selected from the C_1-C_4 alkyl esters of methacrylic acid and from vinylaromatic monomers, and
- from 0 to 20% by weight of one or more ethylenically unsaturated monomers different from but polymerizable with the monomers M1a and M1b.

8. An aqueous polymer dispersion as claimed in claim 1, wherein the monomer charges M1 and M2 comprise in total from 0.1 to <3% by weight, based on the overall weight of the monomers contained in the monomer charges M1 and M2, of at least one monoethylenically unsaturated monomer having an acid group, or salt thereof.

9. An aqueous polymer dispersion as claimed in claim 1, wherein the weight ratio of the monomers present in the monomer charge M1 to the monomers present in the monomer charge M2 is in the range from 20:1 to 1:20.

10. A process for preparing an aqueous polymer dispersion as defined in claim 1 by free-radical aqueous emulsion polymerization comprising the following steps:

i) polymerization of a first monomer charge M1 to give a polymer P1 having a theoretical glass transition temperature $T_g^{(1)}$ (according to Fox) and

ii) polymerization of a second monomer charge M2 to give a polymer P2 having a theoretical glass transition temperature $T_g^{(2)}$ (according to Fox) which is different from $T_g^{(1)}$

in the aqueous dispersion of the polymer P1, at least one chain transfer reagent being used either in the polymerization of the monomer charge M1 or in the polymerization of the monomer charge M2.

11. A pigmented and/or filled coating composition comprising as binder at least one aqueous polymer dispersion as defined in claim 1.

12. A composition as claimed in claim 11, which is a latex paint.